Prelim Bits 13-02-2022 & 14-02-2022 | UPSC Daily Current Affairs

Proxima Centauri

The European Southern Observatory (ESO) has detected a new planet 'Proxima d' around Proxima Centauri.

- Proxima Centauri is the closest star to our Solar System, lying just over four light-years away.
- It is a faint red dwarf star, which might or might not spell doom.
- It is part of the Alpha Centauri star system.

Exoplanets of Proxima Centauri	**Characteristics**
Proxima b	It is a planet with a mass comparable to that of Earth that orbits the star every 11 days. It is within the habitable zone.
Proxima c	It is on a longer five-year orbit around the star.
Proxima d	It is the third detected in the system and the lightest yet discovered orbiting this star.

Reference

1. https://www.sciencedaily.com/releases/2022/02/220210085019.htm
2. https://www.eso.org/public/news/eso2202/
3. https://earthsky.org/astronomy-essentials/proxima-centauri-our-suns-nearest-neighbor/

White Cheeked Macaque

Scientists from the Zoological Survey of India (ZSI) have found a new mammal species in the country - the White Cheeked Macaque.

- The White Cheeked Macaque has distinct white cheeks, long and thick hair on the neck and a longer tail than other Macaque species.
- It is the last mammal to have been discovered in Southeast Asia.
- While the Macaque was first discovered in China in 2015, its existence was not known in India before this.
- Its presence has been discovered in the remote Anjaw district in central Arunachal Pradesh.
- Both the Arunachal macaque as well as the White Cheeked Macaque exist in the same biodiversity hotspot in the eastern Himalayas.
- **Protection Status** - This species is not included in the Wildlife Protection Act of India, which presently doesn't cover it simply because we didn't know it existed in India.
- **Threat** - The potential threat to all species of macaques in the landscape is due to hunting by locals for consumption and habitat degradation due to urbanization and infrastructure

development.

Reference

1. https://indianexpress.com/article/india/meet-indias-newest-mammal-white-cheeked-macaque-7763461/
2. https://www.thehindu.com/news/national/other-states/scientists-find-white-cheeked-macaque-in-arunachal-pradesh/article38399803.ece

Dholes

A new study has reported the presence of dholes in the high mountains of Central Asia nearly 30 years after their presence was last recorded.

- Dholes or Asiatic wild dogs (*Cuon alpinus*) are canid native to Central, South, East Asia, and Southeast Asia.
- India perhaps supports the largest number of dholes, with key populations found in 3 landscapes - Western Ghats, Central India and Northeast India.
- Dholes are the apex social carnivores in the tropical forests of South and South East Asia.
- It is a highly social animal, living in large clans without rigid dominance hierarchies and containing multiple breeding females.
- They hunt in packs and tend to venture into forested landscapes adjoining protected areas.
- **Threats** - Anthropogenic factors, which fragment and alter landscapes seriously affects dholes.
- Other threats are habitat loss, loss of prey, competition with other species, persecution due to livestock predation and disease transfer from domestic dogs.

Protection Status	
IUCN List of Threatened Species	Endangered
CITES	Appendix II
Wildlife Protection Act, 1972	Schedule II

Besides the tiger, the dhole is the only large carnivore in India that is under the IUCN's 'endangered' category.

Reference

1. https://www.downtoearth.org.in/news/wildlife-biodiversity/researchers-spot-dholes-in-kyrgyzstan-after-3-decades-81411
2. https://www.thehindu.com/news/national/article61700366.ece

Fairbank's Disease

- Fairbank's disease or Multiple epiphyseal dysplasia (MED) a rare genetic disorder which affects the growing ends of bones.
- It is a group of disorders of cartilage and bone development, primarily affecting the ends of the long bones in the arms & legs (epiphyses).
- Bones usually elongate by a process that involves the depositing of cartilage at the ends of the

bones, called ossification.
- This cartilage then mineralizes and hardens to become bone. In MED, this process is defective.
- **Two types of MED** - They are distinguished by their patterns of inheritance as
    - Autosomal dominant and
    - Autosomal recessive.
- **Causes** - Dominant MED is caused by mutations in the COMP, COL9A1, COL9A2, COL9A3, or MATN3 genes (or can be of unknown cause).
- Recessive MED is caused by mutations in the SLC26A2 gene.
- **Symptoms** - Joint pain in the hips and knees; early-onset arthritis; a waddling walk; and mild short stature as adults.
- Recessive MED may also cause malformations of the hands, feet, and knees; scoliosis; or other abnormalities.
- Most people are diagnosed during childhood, but mild cases may not be diagnosed until adulthood.
- MED patient usually requires management of pain and orthopedic procedures, for which facilities are available at tertiary care institutions in India.

Reference

1. https://www.pib.gov.in/PressReleasePage.aspx?PRID=1796442
2. https://rarediseases.info.nih.gov/diseases/10756/multiple-epiphyseal-dysplasia

Acromegaly Disorder

- Acromegaly is a **hormonal disorder** that develops when your pituitary gland produces too much **growth hormone during adulthood**.
- When you have too much growth hormone, your bones increase in size.
- In childhood, this leads to increased height and is called gigantism.
- But in adulthood, a change in height doesn't occur. Instead, the increase in bone size is limited to the bones of your hands, feet and face, and is called acromegaly.
- **Symptoms** - Sleeplessness, Excess fatigue, A hoarse voice, Profuse sweating, Frequent headaches, Abnormal weight gain, Develop odour in the body, Enlargement of jaws or tongue etc.
- As acromegaly is uncommon and the physical changes occur slowly over many years, the condition sometimes takes a long time to recognize.
- Untreated, high levels of growth hormone can affect other parts of the body, in addition to your bones. This can lead to health problems.
- But treatment can reduce your risk of complications and significantly improve your symptoms, including the enlargement of your features.

Reference

1. https://www.pib.gov.in/PressReleasePage.aspx?PRID=1796442
2. https://www.mayoclinic.org/diseases-conditions/acromegaly/symptoms-causes/syc-20351222#:~:text=Acromegaly%20is%20a%20hormonal%20disorder,in%20height%20doesn't%20occur.

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